

CHALLENGES

Water supply shortage is a critical issue for Sri Lankan municipalities as they face the pressures of an increasing population, a rising per capita demand for clean water, and increasing power tariffs. The National Water Supply and Drainage Board (NWSDB) operates more than 275 pumping stations across the entire island nation. It spends 40% percent, a significant proportion of its resources paying for the energy to operate water and sewage treatment systems. Tremendous opportunities exist for energy and water savings in municipal water supply operations through the implementation of simple, low-cost energy efficiency measures. Although NWSDB represents a potentially fertile market for energy efficiency companies, the Water Board is presently underserved by the energy efficiency industry, partially due to an undeveloped energy service industry.

OBJECTIVES

The dual objectives of this program are to reduce energy consumption in municipal applications, thereby increasing financial sustainability and reducing environmental impacts, and to build the capacity of municipal institutions and water boards to improve the delivery of water to households, especially the urban poor. This effort is centered on partnerships with the City of Colombo, NWSDB, and private technical consultants.

APPROACH

Following on the success of the Alliance's work with local government units and municipal water utilities in India, the Alliance developed the Sri Lanka Watergy program - a municipal energy efficiency initiative that emphasizes the energy saving opportunities in the water and wastewater sectors. The Sri Lanka Watergy Program started in October 2002 with pilot projects to demonstrate opportunities for water and energy efficiency in the city of Colombo. To build lasting capacity within NWSDB, the Alliance helped establish an energy and water efficiency unit within

NWSDB consisting of six senior and middle-level technical and managerial staff working to enhance efficiency in NWSDB operations throughout the country.

The Alliance, partnering with the Energy Research Institute (TERI) of India, conducted a 15 day, hands-on energy audit training program for the unit that involved 25 engineers from across the country at the Anuradhapura. Under the Alliance and TERI's supervision, the unit carried out energy audit in a section of the Ambatale plant in Colombo and identified Energy saving opportunities. The unit in turn conducted a series of trainings at the technician level, training 110 officers in charge during 2004-2005 out of a total of 180.



These operators have been given the responsibility of reducing each of their pumping stations electricity bill by LKR 500 and tabulating and comparing energy use over time. The Watergy Program also organized a knowledge exchange meeting between Indian Water Utility – Delhi Jal Board decision makers and NWSDB's senior management to discuss energy efficiency implementation, with the ultimate objective of scaling up the energy efficiency activities. The Alliance facilitated and organized another training program in Bangalore early 2006 for eight NWSDB engineers.

RESULTS

The Sri Lanka Watergy Program has facilitated energy audits in municipal bulk water supply stations in the cities of Colombo and Anuradhapura, and assisted in the training of 33 water utility engineers and managers in energy efficiency best practices. Implemented measure at Ambatale are yielding approximately Savings 0.76 millions of SLR per month. The Watergy Program also initiated an international knowledge exchange between Indian technical specialists and energy auditors and water utility managers in Philippines and Sri Lanka. The feedback of two NWSDB engineers trained at the Watergy audit training program in the city of Iloilo, Philippines, was instrumental in helping establish the six-member Energy Savings Unit (ESU) at NWSDB engineers that aims to train over 400 municipal engineers nationwide.



Kantale water supply plant in Trincomalee

The effectiveness of disseminating the Watergy in Sri Lanka was demonstrated when one of the key members of the ESU, after being trained on water and energy efficiency at the Ambatale plant, took his experience to his new posting at Kantale water supply plant, in Trincomalee. Without any major investments, by making minor equipment changes and undertaking civil works to improve energy efficiency and increase water supply, the Kantale plant has achieved monthly energy savings of 194,370 kWh, and an additional

increase in water supply by 3600 M³ corresponding to a yearly cost savings of almost US\$ 200,000 recorded in the financial statements of NWSDB. The electric utility that provides electricity to the Kantale plant has used the energy saved to supply electricity to 4,000 additional households.

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